

HOMWORK ASSIGNMENT #1

Circle the correct answer.

1. Which best describes a conducting forward-biased silicon diode?
 - a) Positive cathode, negative anode, voltage across =0.7V at 10mA bias current
 - b) Positive cathode, negative anode, voltage across =10V at 10mA bias current
 - c) Negative cathode, positive anode, voltage across = 0.7V at 10mA bias current
 - d) Negative cathode, positive anode, voltage across = 10V at 10mA bias current

2. A semiconductor diode is tested using a digital multimeter. The resistance of the diode is 10Ω in both forward and reverse-biased conditions. The diode is _____
 - a) shorted
 - b) Open
 - c) Not faulty
 - d) None of the above

3. A practical diode offers _____ resistance under reverse-biased conditions if the applied reverse voltage is less than the breakdown voltage.
 - a) Infinite($>100K\Omega$)
 - b) Low($<10\Omega$)
 - c) Zero Ω
 - d) 500Ω

4. With 10mA forward bias current, the voltage at the anode and cathode of a diode in a circuit are found to be the same. The diode is most likely to be _____.
 - a) Open
 - b) Shorted
 - c) Installed backwards
 - d) Not faulty

5. A sample of intrinsic semiconductor at room temperature _____.
 - a) Acts as a perfect insulator
 - b) Acts as a perfect conductor
 - c) Has no free electrons, all electrons are tied to the atoms
 - d) Has free electrons that are unattached to any atom